This listing of the claims will replace all prior versions and listings of claims in the application:

Listing of the claims:

Claims 1-55 (canceled)

Claim 56: (new) A method for assessing cardiac muscle damage in a subject, comprising detecting the presence or absence or measuring the amount of:

(a) a peptide fragment of a myofilament protein; or

(b) a covalent or non-covalent complex of at least:

(I) a peptide fragment of a myofilament protein and an intact protein; or

(ii) two peptide fragments of myofilament proteins,

in a biological sample obtained from a subject being assessed for cardiac muscle damage,

wherein said peptide fragment of the myofilament protein or said peptide fragment of the covalent or non-covalent complex consists of:

all or a portion of a cardiac troponin I peptide fragment selected from the group consisting of SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26 and SEQ ID NO:27,

a myosin light chain 1 peptide fragment,

all or a portion of a troponin T peptide fragment selected from the group consisting of SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32 and SEQ ID NO:33,

a troponin C peptide fragment, or

an α-actinin peptide fragment,

and wherein the presence or amount of:

(a) the peptide fragment of the myofilament protein; or

(b) the covalent or non-covalent complex of at least:

(I) the peptide fragment of the myofilament protein and the intact protein; or

(ii) two peptide fragments of myofilament proteins,

in the biological sample is associated with cardiac muscle damage.

Claim 57: (new) The method of claim 56 wherein the presence of at least two different peptide fragments of myofilament proteins or covalent or non-covalent complexes are detected.

Claim 58: (new) The method of claim 56 wherein the amounts of at least two different peptide fragments of myofilament proteins or covalent or non-covalent complexes are measured and the measured amounts are compared as an indication of the extent

of cardiac muscle damage in the subject.

Claim 59: (new) The method of claim 56 wherein the ratio of at least two different peptide fragments of myofilament proteins or covalent or non-covalent complexes is assessed as an indication of the extent of cardiac muscle damage in the subject.

Claim 60: (new) The method of claim 56, wherein the presence or absence or the amount of the:

(a) peptide fragment of a myofilament protein; or

(b) covalent or non-covalent complex of at least:

(I) a peptide fragment of a myofilament protein and an intact protein; or

(ii) two peptide fragments of myofilament proteins,

is detected or measured by incubating the biological sample with a compound that specifically binds to the:

(a) peptide fragment of a myofilament protein; or

(b) covalent or non-covalent complex of at least:

(I) a peptide fragment of a myofilament protein and an intact protein; or

(ii) two peptide fragments of myofilament proteins,

under conditions which allow the compound to form a complex with

the

(a) peptide fragment of a myofilament protein; or

(b) covalent or non-covalent complex of at least:

(I) a peptide fragment of a myofilament protein and an intact protein; or

(ii) two peptide fragments of myofilament proteins, and detecting or measuring the formed complex.

Claim 61: (new) The method of claim 60, wherein the compound is selected from the group consisting of an antibody, a functional fragment of an antibody, a protein, a protein fragment, a peptide and a peptidomimetic.

Claim 62: (new) The method of claim 60, wherein the complex is detected or measured by assaying for the presence of a label.

Claim 63: (new) The method of claim 60, wherein the compound is labeled with an enzyme which is detected by measuring enzymatic activity associated therewith.

Claim 64: (new) The method of claim 63, wherein the enzyme is selected from the group consisting of alkaline phosphatase,

horseradish peroxidase, luciferase, beta-galactosidase, lysozyme, glucose-6-phosphate dehydrogenase, lactate dehydrogenase, and urease.

Claim 65: (new) The method of claim 60, wherein the compound is immobilized on a solid phase.

Claim 66: (new) The method of claim 65, wherein the solid phase is a plastic surface.

Claim 67: (new) The method of claim 60, wherein the compound binds to a region of troponin I comprising all or a portion of SEQ ID NO:26 or SEQ ID NO:27.

Claim 68: (new) The method of claim 60, wherein the compound binds to a region of troponin I comprising all or a portion of SEQ ID NO:21.

Claim 69: (new) The method of claim 60, wherein the compound binds to a region of myosin light chain 1 comprising all or a portion of SEQ ID NO:28.

Claim 70: (new) The method of claim 60, wherein the compound binds to a region of myosin light chain 1 comprising all or a portion of SEQ ID NO:29.

Claim 71: (new) The method of claim 56 wherein the cardiac muscle damage is reversible.

Claim 72: (new) The method of claim 71 wherein the cardiac muscle damage is due to at least one condition selected from the group consisting of hypoxia, hypoxemia, ischemia, fatigue and reperfusion.

Claim 73: (new) The method of claim 56 wherein the muscle damage is irreversible.

Claim 74: (new) The method of claim 73 wherein the muscle damage is due to at least one condition selected from the group consisting of hypoxia, hypoxemia, ischemia, and reperfusion.

Claim 75: (new) The method of claim 56 wherein the biological sample is selected from the group consisting of cardiac muscle tissue, a component of cardiac muscle tissue,

blood, blood serum and urine.

Claim 76: (new) The method of claim 56, wherein the peptide fragment of the myofilament protein or the covalent or non-covalent complex of at least:

(I) a peptide fragment of a myofilament protein and an intact protein; or

(ii) two peptide fragments of myofilament proteins consists of all or a portion of a cardiac troponin I peptide fragment selected from the group consisting of SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26 and SEQ ID NO:27.

Claim 77: (new) The method of claim 56, wherein the peptide fragment of the myofilament protein or the covalent or non-covalent complex of at least:

(I) a peptide fragment of a myofilament protein and an intact protein; or

(ii) two peptide fragments of myofilament proteins consists of a myosin light chain 1 peptide fragment.

Claim 78: (new) The method of claim 56, wherein the peptide

fragment of the myofilament protein or the covalent or non-covalent complex of at least:

(I) a peptide fragment of a myofilament protein and an intact protein; or

(ii) two peptide fragments of myofilament proteins consists of a covalent complex.

Claim 79: (new) The method of claim 78 wherein the covalent complex consists of all or a portion of a cardiac troponin I peptide fragment selected from the group consisting of SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26 and SEQ ID NO:27 and a troponin C peptide fragment or a troponin T peptide fragment.

Claim 80: (new) A method for assessing skeletal muscle damage in a subject, comprising detecting the presence or absence or measuring the amount of:

(a) a peptide fragment of a myofilament protein; or

(b) a covalent or non-covalent complex of at least:

(I) a peptide fragment of a myofilament protein and an intact protein; or

(ii) two peptide fragments of myofilament proteins,

in a biological sample obtained from a subject being assessed for skeletal muscle damage,

wherein said peptide fragment of the myofilament protein or said peptide fragment of the covalent or non-covalent complex formation consists of:

a troponin I peptide fragment,

a myosin light chain 1 peptide fragment,

a troponin T peptide fragment,

a troponin C peptide fragment, or

an α-actinin peptide fragment,

and wherein the presence or amount of:

(a) the peptide fragment of the myofilament protein; or

(b) the covalent or non-covalent complex of at least:

(I) the peptide fragment of the myofilament protein and the intact protein; or

(ii) two peptide fragments of myofilament proteins,

in the biological sample is associated with skeletal muscle damage.

Claim 81: (new) The method of claim 80, wherein the peptide fragment of the myofilament protein or the covalent or non-covalent complex of at least:

(I) a peptide fragment of a myofilament protein and an intact protein; or

(ii) two peptide fragments of myofilament proteins consists of a covalent complex.

Claim 82: (new) The method of claim 80 wherein the presence of at least two different peptide fragments of myofilament proteins or covalent or non-covalent complexes are detected.

Claim 83: (new) The method of claim 80 wherein the amounts of at least two different peptide fragments of myofilament proteins or covalent or non-covalent complexes are measured and the measured amounts are compared as an indication of the extent of skeletal muscle damage in the subject.

Claim 84: (new) The method of claim 80 wherein the ratio of at least two different peptide fragments of myofilament proteins or covalent or non-covalent complexes is assessed as an indication of the extent of skeletal muscle damage in the subject.

Claim 85: (new) The method of claim 80, wherein the presence

or absence or the amount of the:

(a) peptide fragment of a myofilament protein; or

(b) covalent or non-covalent complex of at least:

(I) a peptide fragment of a myofilament protein and an intact protein; or

(ii) two peptide fragments of myofilament proteins,

is detected or measured by incubating the biological sample with a compound that specifically binds to the:

(a) peptide fragment of the myofilament protein; or

(b) covalent or non-covalent complex of at least:

(I) a peptide fragment of a myofilament protein and an intact protein; or

(ii) two peptide fragments of myofilament proteins,

under conditions which allow the compound to form a complex with the:

(a) peptide fragment of a myofilament protein; or

(b) covalent or non-covalent complex of at least:

(I) a peptide fragment of a myofilament protein and an intact protein; or

(ii) two peptide fragments of myofilament proteins,

and detecting or measuring the formed complex.

Claim 86: (new) The method of claim 85, wherein the compound is selected from the group consisting of an antibody, a functional fragment of an antibody, a protein, a protein fragment, a peptide and a peptidomimetic.

Claim 87: (new) The method of claim 85, wherein the complex is detected or measured by assaying for the presence of a label.

Claim 88: (new) The method of claim 85, wherein the compound is labeled with an enzyme which is detected by measuring enzymatic activity associated therewith.

Claim 89: (new) The method of claim 88, wherein the enzyme is selected from the group consisting of alkaline phosphatase, horseradish peroxidase, luciferase, beta-galactosidase, lysozyme, glucose-6-phosphate dehydrogenase, lactate dehydrogenase, and urease.

Claim 90: (new) The method of claim 85, wherein the compound is immobilized on a solid phase.

Claim 91: (new) The method of claim 90, wherein the solid

phase is a plastic surface.

Claim 92: (new) The method of claim 80 wherein the skeletal muscle damage is reversible.

Claim 93: (new) The method of claim 92 wherein the skeletal muscle damage is due to at least one condition selected from the group consisting of hypoxia, hypoxemia, ischemia, fatigue and reperfusion.

Claim 94: (new) The method of claim 80 wherein the skeletal muscle damage is irreversible.

Claim 95: (new) The method of claim 94 wherein the skeletal muscle damage is due to at least one condition selected from the group consisting of hypoxia, hypoxemia, ischemia, and reperfusion.

Claim 96: (new) The method of claim 80 wherein the biological sample is selected from the group consisting of skeletal muscle tissue, a component of skeletal muscle tissue, blood, blood serum and urine.

Claim 97: (new) A method for assessing muscle damage in a subject, comprising detecting the presence or absence or measuring amounts of at least two different:

(a) peptide fragments of a myofilament protein

(b) covalent or non-covalent complexes of at least:

(I) a peptide fragment of a myofilament protein and an intact protein; or

(ii) two peptide fragments of a myofilament protein,

in a biological sample obtained from a subject being assessed for muscle damage,

wherein said peptide fragments of the myofilament protein or said peptide fragments of the covalent or non-covalent complexes consist of:

troponin I peptide fragments,

myosin light chain 1 peptide fragments,

troponin T peptide fragments,

troponin C peptide fragments, or

α-actinin peptide fragments,

wherein the presence or amount of the:

(a) peptide fragments of the myofilament protein; or

(b) covalent or non-covalent complexes of at least:

(I) the peptide fragment of the myofilament protein and

the intact protein; or

(ii) two peptide fragments of the myofilament protein, in the biological sample are associated with muscle damage, and wherein the

(a) peptide fragments of the myofilament protein; or

(b) covalent or non-covalent complexes of at least:

(I) the peptide fragment of the myofilament protein and the intact protein; or

(ii) two peptide fragments of the myofilament protein, are from the same myofilament protein.

Claim 98: (new) The method of claim 97 wherein the ratio of the

(a) peptide fragments of the myofilament protein; or

(b) covalent or non-covalent complexes of at least:

(I) the peptide fragment of the myofilament protein and the intact protein; or

(ii) two peptide fragments of the myofilament protein, from the same myofilament protein is assessed as an indication of the extent of the muscle damage in the subject.